DOCUMENT RESUME

ED 288 443 HE 020 939

AUTHOR Scott, Robert A.
TITLE Strategic Responses to Demographic Changes: Students, Faculty, and Patrons.
PUB DATE 19 Oct 87
NOTE 38p.; Paper based on an invited address at the Annual Meeting of the Eastern Association of College and University Business Officers (Pittsburgh, PA, October 19, 1987). Some tables contain light, broken type.
PUB TYPE Viewpoints (120) -- Reports - Descriptive (141) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Change Strategies; *College Faculty; College Planning; *College Students; *Declining Enrollment; *Donors; Enrollment Trends; Fund Raising; Higher Education; Marketing; Population Trends; School Business Relationship; *School Demography; School Holding Power; Student Recruitment; *Teacher Recruitment; Teacher Supply and Demand
IDENTIFIERS *Ramapo College of New Jersey

ABSTRACT

Demographic changes affecting college students, faculty, and patrons and responses to the changes are considered. For each of the three groups, attention is directed to factors influencing change within and outside the campus, options available to the campus, and strategies for responding to the demographic changes. To recruit new full-time freshmen, strategy development requires review of feeder schools to analyze inquiries, applications, admission offers, and deposits paid. For recruiting transfer students, articulation agreements are important. Recruiting adult students requires special mailings and advertisements. Strategies employed by Ramapo College of New Jersey to market the school's international and multicultural offerings are described. Consideration is also given to ways for a college to address a diminished supply of faculty and approaches that Ramapo College has employed, including joint ventures with industry and with other colleges, and recruiting retirees from business/industry. To improve financial donations, colleges use techniques such as grant applications that are project-specific, leases and sales of assets, and offering services like art shows and meeting facilities. (SW)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ED288443

# Strategic Responses to Demographic Changes: Students, Faculty, and Patrons

by
Dr. Robert A. Scott
President
Ramapo College of New Jersey

Based on an invited address at the Eastern Association of College and University Business Officers Annual Meeting, Pittsburgh, October 19, 1987.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Robert A. Scott

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

HE 020 939



BEST COPY AVAILABLE

# Strategic Responses to Demographic Changes: Students, Faculty, and Patrons

Robert A. Scott, President
Ramapo College of New Jersey

## Introduction

When educators hear the word "demographics," they seem immediately to think of enrollment. The decline in the number of eighteen-year-olds and the changing composition of high school student bodies in terms of race, ethnicity, and preparation have been discussed for so long as the demographics of main concern to educators that they seem blind to related demographic issues. This essay, written in response to a request to discuss the challenges presented by the demographic changes occurring in this country, and how institutions might respond, will discuss three broad demographic groups: students, faculty, and patrons, those providers of resources. These three groups are central to all discussions of institutional survival or excellence, public-private college competition, and public policy in support of higher education.

---

Based on an invited address at the Eastern Association of College and University Business Officers Annual Meeting, Pittsburgh, October 19, 1987.

## Method

"Demography is destiny," is now a classic phrase. The economist Kenneth Boulding has referred to demographics as "the celestial mechanics of the social sciences." This science of the statistics of human populations concerns questions of size, distribution, composition, and trends. Thus, discussions of demographic changes affecting higher education must include not only future students, but also current students, faculty and staff, and both private and public patrons. Each can be treated conceptually as a population undergoing change and requiring a strategic response.

The word "strategy" is derived from the Greek words meaning "army" and "to lead." Together, these words form "strategos," which means the General. Just as the General's goal is not simply to survive but to succeed, so the goal of strategic management is not simply to survive but to achieve a high degree of success, distinctiveness, competitive advantage-even excellence. Strategic management's tasks, then, "are to understand the environment, define organizational goals, identify options, make and implement decisions, and evaluate actual performance...to exploit the new and different opportunities of tomorrow, in contrast to long-range planning, which tries to optimize for tomorrow the trends of today."*

*Future Research and the Strategic Planning Process: Implications for Higher Education, James L. Morrison, William L. Renfro, and Wayne I. Boucher, ASHE-ERIC Higher Education Research Report 9, 1984, Washington, D.C., p.8.)

By understanding the environment, we mean both internal and external environments and environmental forces. The purpose is to know one's institution and its opportunities in order to make informed and strategic, or fundamental, choices of direction based on history, strength, and opportunities. This analysis requires an examination of the strengths and weaknesses associated with internal environmental forces, and the opportunities and dangers associated with esternal forces.

Much has been written about strategy development and strategic management. Conferences and workshops abound. College presidents could spend most of each year attending sessions on planning. Most descriptions of these sources of information about strategy make it sound like an extremely orderly process, with an expectation that all planned courses of action will be implemented on schedule. In the words of Henry Mintzberg of McGill University,

> The keynote [to most forms of strategy planning] is reason--rational control, the systematic analysis of competitors and markets, of company strengths and weaknesses, the combination of these analyses producing clear, explicit, full-blown strategies. ("Crafting Strategy," Harvard Business Review, July-August 1987, p. 66.)

This image is misleading, as Professor Mintzberg goes on to say. The environments on and off-campus are too dynamic, the need for the chief executive officer to be chief planning officer as well as CEO is too compelling, for this image to capture reality. Instead, I prefer Professor Mintzberg's thesis that "crafting" better captures the process by which effective strategies are created. "Craft," in his words, "evokes traditional skills, dedication, perfection through the mastery of detail...not

so much thinking and reason as involvement, a feeling of intimacy and harmony with the materials at hand, developed through long experience and commitment." (Mintzberg, p. 66.) For his mataphor, Professor Mintzberg uses the image of the potter, sitting at her wheel with a lump of clay. To him, managers are craftsmen and strategy is their clay. Strategy can be created; it can emerge.

By and large, I agree. Strategy development requires both rational analysis and the "feel" of the potter for the prospects of her clay. For these reasons, I define strategic planning as

> the rational determination of where we are, the vision of where we want to be, and the development of a detailed design for getting there.

The last element consists of an action plan, with specific steps, assignments, and deadlines.

For each of our subjects--students, faculty, and patrons--I will review (1) the demographic changes underway or projected; (2) some key assumptions about environmental forces for change both on and off-campus; (3) options and choices available to the campus; and (4) principles for crafting strategy. The sections are not completely balanced; more is understood about student demographics than about patrons. Yet each section creates a foundation for further consideration and for the development of plans.

**Students: Demographic Changes Underway or Projected**

The key demographic changes among youth are well known. The number of eighteen-year-olds is declining. The teenage roller coaster is in full swing (Table 1). We also know that while the total number

of eighteen-year-olds is declining, the proportion of minority youth is increasing, thereby resulting in significant changes in the composition of the youth groups which represent potential college students. According to table 2, the proportion of minority youth among eighteen-year-olds will increase from 17% in 1982 (up from 8.3% in 1970) to 18.6% in 1995 and 20.6% in the year 2000. Note the differences in high school graduation and college-going rates. In crafting strategy, one should also look at minority group data at the county or even zip code level.

Potential adult students are also of interest. As table 3 shows, there are substantial numbers of adults age 25 and over who do not have college degrees, yet have some foundation for future study. Other sources of potential students include those who might otherwise go out-of-state to college, increased high school graduation rates, and immigration, including new students for whom English is a second language.

A trend of interest to many colleges is found in the number of upper income families whose children now choose public institutions, even though price is not--or is not expected to be--a concern. Are parents less willing to spend discretionary income on higher tuition? Are public institutions now viewed as more prestigious by these affluent families? The answers to these questions will affect campus marketing plans.

Still other changes in demographic characteristics may be found in the proportion of women and men returning to college, the number of differently abled students in wheelchairs or in need of other mechanical assistance for mobility, the learning disabled, and the hearing impaired. Each represents a sizeable population of potential students.

One of the best summaries of student demographic data was compiled by Harold Hodgkinson for his Phi Delta Kappan article entitled, "Reform? Higher Education? Don't Be Absurd!" (December 1986, pp. 271-274). In this article, Hodgkinson reviews the status of four-year olds who could be college freshmen in the year 2000.

1. 24% live below the poverty line.
2. Far fewer are white, suburban, and middle class compared to 1970.
3. One-third are nonwhite--black, Hispanic, and Asian primarily.
4. 18% were born out of wedlock.
5. More than 45% will be raised by a single parent before they are 18.
6. Many do not speak English; Spanish is but one of the other languages used.
7. An increasing number have physical and emotional handicaps.
8. 54% have mothers who work outside the home, and the children receive some form of day care.
9. By the time they reach school age, two-thirds of their mothers will be working, most of them full-time.
10. Twenty percent of the girls will become pregnant during their teen age years.

These trends will affect most colleges and universities.

**Students: Some Key Assumptions About Environmental Forces**

Student enrollment consists of retention as well as recruitment. Strategies are needed for both, but we will focus here on recruitment. Suffice it to say that improved retention can help reduce the pressures on recruitment.

The increase in "non-traditional" students, that is urban, minority, and adult students, will put new demands on student services and academic counseling. An increase in corporate employees enrolled will place new demands on the responsiveness of these services to the needs of persons whose time on campus represents a small proportion of their daily hours.

This increased diversity of students suggests that there is and will be a greater disparity among students in the degree of preparation for college-level assignments. Basic reading, writing, math, and an orientation to college life are now staples in the curriculum of many colleges. This diversity will also result in widely differing demands on student housing and other services.

**Students: Options and Choices Available**

Some colleges have consciously decided to reduce their enrollments and to cope with the changing demographics by admitting a smaller, but more highly qualified, freshman class. This option is most likely to be used by private colleges, though, because public colleges have a mandate to be accessible. Public four-year colleges must seek students who are adequately prepared, and avoid admitting students who should attend open enrollment county colleges, but they cannot put too much emphasis on seeking only the most talented. Senior public colleges are society's opportunity colleges on which democracy depends. A high

degree of selectivity, or "downsizing" to limit enrollments, would not be seen as sound public policy if implemented by them.

The opposite strategy would be to lower standards and either maintain or increase enrollments. Some colleges will do this. Still others will put an ever-increasing emphasis on adult, evening, weekend, and part-time students. This choice, as with others, depends upon the strengths, mission, and opportunities of the campus. Still another option is for the college to seek out partnerships with high schools so as to work with local school officials to increase high school student retention rates, graduation rates, aspirations, and college-going. A related form of partnership--the articulation agreement--enables community college graduates to enroll in the four-year college as if he or she had attended the previous semester. Course credits, registration, and advising are all taken care of systematically.

**Students: Principles for Crafting Strategy**

A strategy starts with the basics. For recruiting new full-time freshman students, strategy development requires a careful review of potential and actual "feeder" schools in order to analyze the relationships of inquiries, applications, offers of admission, and deposits paid. The top 25 feeder schools could provide 25% to 50% of an institution's new freshmen. Schools, and counties, and regions should be selected for special emphasis, not simply approached without particular reason. For recruiting transfer students, it is best to undertake a careful review of, or development of, so-called articulation agreements. Ideally, a student at a community college should see in his or her catalog the requirements for admission at the senior college and the course-to-course equivalency at the two institutions.

Recruiting adult students requires special mailings, advertisements, and other means. Perhaps the most effective recruiting technique for this group, as for students at other four-year colleges or universities, is "word of mouth." The second best method is to arrange group counseling and registration sessions for the employees of a neighboring corporate employer.

Talk to students. Survey them. Find out what they want. A president may be surprised to learn that, in addition to gaining some additional competence, these adult students, and summer session students from other colleges, are looking for a structure to their lives, status as students, and the opportunity to meet people--without going to bars. How best should an institution use this information?

Know your institution, and know your market. The key to crafting a strategy is to express a vision and to identify a set of principles to follow in execution of the strategy. For example, we decided that Ramapo's niche should be in international and multicultural education. We want to be known as "the college of choice for a global education." But we are not narrowly focused on international studies. The purpose of this strategy is to achieve a distinctiveness that is easily understandable and therefore helps in student and faculty-staff recruitment. (And freshman enrollment increased 20% this fall!)

International and multicultural education was chosen as the strategic direction for Ramapo not only because the new president believed strongly that every college graduate should be globally literate and the recipient of a broad liberal arts education, but also because Ramapo College

has a distinct set of assets and opportunities which suggest that this should be the direction to take in strengthening institutional distinctiveness and attractiveness.

More than one-half of Ramapo's faculty have had substantial experience in other nations and cultures. They gained this experience through scholarly research, graduate education, early childhood, and extensive travel and consultancies. Two of Ramapo's faculty are nationally known for their leadership in international education. For the past six years, Ramapo College's student Model UN program has won "best delegation" honors in competition against Harvard, Army, Georgetown, Pittsburgh and other prominent institutions. A Ramapo faculty member directs a 19-college consortium of scholars and teachers studying immigration and preparing scholarly and teaching materials for the study of immigration and ethnic communities in New Jersey.

In addition, Northern New Jersey has become home for the headquarters of many multinational and foreign firms. Ramapo's neighbors include Japanese firms such as Sharp, Minolta and Sony, Italian firms such as SIMAC, Korean firms such as Samsung, the British firms of Laura Ashley and Jaguar, and many others. A large number of ethnic and nationality groups exist in Northern New Jersey because more than one-half of those who came through Ellis Island found their way to and through New Jersey, and, in recent years, large numbers of people from Spanish-speaking and Asian countries have come to the area. The United Nations is only 45 minutes away, and the College is in close proximity to many other international and multinational agencies and organizations.

In developing a strategy, it is necessary not only to assess assets and opportunities, but also to develop a set of principles for decision-making.

At Ramapo, we decided on the following principles to guide us in developing our identity as the "college of choice for a global education."

1. We decided that our strategy should include both international and multicultural themes. After all, the U.S. is part of the world, and we have a great diversity of ethnic groups and nationalities in our midst. It is just as important that our students understand the composition and diversity of American society as it is for them to appreciate diversity in the world.

2. We also decided that our theme of international and multicultural education should be pervasive throughout the curriculum, in professional studies such as accounting and social work as well as in general education and area studies. (After all, if accounting is the systematic assignment of value to assets, and if values and assets differ around the world, then our business students should study comparative accounting.) We decided on an integrative approach that would make it possible for all programs to be included and not limit our efforts to particular majors.

3. Our strategy includes the extracurriculum as well as the curriculum, courses in subject matter as well as in skill areas. Our efforts touch all areas of campus life, including housing, urban internships, field study, overseas exchanges, etc.

4. Our strategic mission embraces research and training as well as undergraduate teaching. There is an important role for our faculty to play through its scholarly activities and work with graduate students through our Faculty Fellows program. Accomplishments of our goals for international and multicultural education will be affected by all these activities.

5. Our program is being developed through campus expertise as

well as through partnerships with others whose expertise lies in different areas. In this manner, the sum of what we do can be greater than the total of the individual parts.*

The recruitment and retention plan for Ramapo, which is based on these principles, has been reduced to 18 pages; recruitment goals and measures are listed on one page.

**Faculty: Demographic Changes Underway or Projected**

The recent ACE report entitled "Campus Trends, 1987" (Elaine El-Khawas, Higher Education Panel Report Number 75, August 1987, Washington, D.C.) contains some striking information about faculty. Thirty-two percent of public institutions reported increased difficulty during the past year in getting top applicants to accept faculty positions (p.27). Eighteen percent of public institutions reported that the quality of applicants for full-time faculty positions has declined over the previous year (p.27). More than one-half of public institutions have programs to retrain faculty for changing program needs and there was a net increase in the hiring of part-time faculty (p.27).

Table 5 shows that after a tremendous increase in the number of faculty positions (28% increase in full-time and 138% increase in part-time positions) between 1970 and 1982, the numbers are beginning to level off and decline. Not surprisingly, this parallels FTE enrollments. Unfortunately, the numbers of faculty by discipline does not parallel student demand by program. Hence the need to retrain faculty and to hire part-time staff.

---

* "Developing an Institutional Strategy for International Education: Principles, Objectives, and Progress," Robert A. Scott, based on a presentation at the Higher Educational International Leadership Summit, S.S. Universe, January 23, 1987.

Many institutions report that a significant number of faculty will leave campus during the next ten years. Some estimates of these departures reach thirty-five percent due to retirement, deaths, and resignations. Compare this expected decline of faculty with the expected upward turn in college enrollments in the 1990s and one has to ask questions about the supply of faculty and staff.

Tables 6, 7, 8 and 9 report data about this future supply of faculty. Note that the percentage of college freshman males indicating a desire to earn a doctorate declined 28% between 1966 and 1985, while the proportion of female freshmen indicating such a desire increased by 65%. However, the increase does not offset the decline. Even more striking is the major decline among both females and males in the proportion wanting to become college professors--an 86% decline in both groups.

Not only do the data suggest that there will be a decline in the number of people with the interest and credentials necessary for college appointments, the number of competitive opportunities for those with doctorates has increased. Industry recruits from graduate schools as well as from among college faculty. So, it looks as if we will move from a position of oversupply to undersupply of Ph.D.s for traditional Ph.D. jobs in education. And graduate enrollments of Blacks and Hispanics is down, which means that minority students will continue to lack faculty as role models and the achievement of affirmative action goals will be difficult at many institutions.

**Faculty: Some Key Assumptions About Environmental Forces On and Off Campus**

The attractiveness of offers from industry has been mentioned as competition for those who might become college faculty. The ACE data on institutional experience in hiring top choice candidates also suggest that comprehensive colleges are losing candidates to universities. The reason? I suspect it involves workload. Contrary to the public perception of how hard faculty work, I believe that, by and large, they work very hard. To begin with, teaching is a challenge that calls upon special skills and talents. But even beyond this, when one combines preparing and teaching three or four courses per week, advising, keeping up with one's field, scholarship, department and campus governance, community service, applying for grants, professional association activities, etc., the list gets quite long. Compare that list and its consequences to the life of a researcher at a pharmaceutical firm. The salary is more likely to buy adequate housing without a long commute; opportunities for promotion and merit increases are more likely to be regular; working conditions, supplies and equipment, and opportunities for professional growth are likely to be more attractive.

Similar comments and comparisons could be made about faculty in other fields and about staff as well. Thus, the environmental forces on and off campus should cause us to challenge our assumptions about the supply and preparation of future faculty--and staff--and to consider new approaches.

**Faculty: Options and Choices Available**

Given the prospects of a diminished supply of faculty, a college has several options and choices, no one of which is adequate by itself if colleges are to have faculty to meet student program demands. A college can decide to become smaller as one way of dealing with reduced enrollment, the preparation of students, and the projected difficulty in recruiting faculty. As mentioned earlier, this option is not universally applicable, and it fails to take into account the lack of balance between faculty supply by discipline and student demand by program. Nevertheless, programs can be eliminated, and resources reallocated. Other choices include the increased use of technology, such as self-paced, computer-assisted instruction in skill areas and televised and videotaped segments in other subjects.

Colleges will definitely have to reconsider their criteria for appointments, including the need for the Ph.D for appointments in all fields. A major impetus for this will be the imperative to hire more minority faculty and staff, whose numbers in graduate programs are declining. Another will be the opportunity to hire needed faculty and staff from among those in business and industry who decide to take early retirement or make a mid-career shift. The necessity of staffing will mandate a reconsideration of the credentials required. (It should also motivate universities to review the organization and structure of doctoral programs.)

Joint arrangements with industry and universities can also help. Joint appointments and exchange agreements can enrich the professional life of faculty; joint degree programs can do the same, and also enhance the educational and scholarly opportunities available to both students and faculty.

At Ramapo, we have several of these activities. We have a joint venture with American Cyanamid's Lederle Laboratories for basic research in medical pharmacology and neuroscience which has created new opportunities for faculty and students. We now have the funds for articulated and accelerated B.S.-M.S./Ph.D. programs in biology, chemistry, and computer science with Rutgers. Under this arrangement students will start their graduate work before leaving Ramapo, and our faculty will become adjunct members of the Rutgers graduate faculty.

We have taken advantage of IBM's unique early retirement program which assists IBM staff in making the transition to college and university teaching and administration. IBM pays the majority of the person's salary for two years and there is no obligation on either side past that. While our first appointment is an administrator, we have interviewed candidates for teaching positions in information systems and management.

We also jointly sponsor the New Jersey Peace Institute with Rutgers, a new opportunity for faculty to engage in research and service, and to develop new courses. Our scientists are developing a joint program with the University of Medicine and Dentistry of New Jersey, and we are arranging for our faculty to contribute courses to an engineering degree program to be offered at our campus by the New Jersey Institute of Technology.

Perhaps the most interesting activity to help us recruit and retain future faculty is our Faculty Fellows Program. Under this program, we provide a stipend to an advanced graduate student at Rutgers (or elsewhere) who has already taught freshmen as a teaching assistant and is well along on his or her dissertation. The Fellow teaches in his or her area of expertise and has a Ramapo faculty member as mentor. One of our goals is to show such persons the advantages of teaching at a college.

Campus leaders can also urge state government to sponsor fellowship programs to recruit graduate students, especially members of minority groups, to prepare for future faculty careers. New Jersey's Minority Academic Career Program offers significant incentives and debt forgiveness to those who accept academic positions.

While many of these options and choices are helpful in recruiting students, they also serve as new forms of professional enrichment for recruiting and retaining faculty.

**Faculty: Principles for Crafting Strategy**

The chief executive's job is to enhance the environment for teaching and learning. One important way of increasing such opportunities on campus is to seek appropriate partnerships and to build them on the basis of faculty and staff strengths matched to student demand. Partnerships can lead to new forms of professional development, new opportunities for curriculum development, and even new sources for recruiting faculty and staff. With this philosophy and a willingness to be flexible, an institution can shape its ability to cope with the changes projected in the demographics of faculty and staff.

**Patrons: Demographic Changes Underway or Projected**

The demographics of patrons is not usually discussed. But just as the demographics of students and faculty and staff require institutional response, so do the demographic changes among patrons. (See Tables 10-14.)

Between 1970-71 and 1984-85 federal support of higher education through student aid, in current dollars, increased 329.4%. In contrast, state aid to students increased 432.6% and (from 1971-72 to 1983-84) corporate support to colleges increased 362.2%. However, since 1975-76, federal funds have increased only 65.3% compared to corporate support

increases of 235.4%, state support increases of 156.5%, and volunteer support increases of 132.4%. During this time, the costs of attendance increased 194.3% at private universities and 120% at public four-year colleges. Between 1974-75 and 1981-82, endowment income and private gifts increased about 130%.

In other words, patrons, including individual donors, corporations, foundations, state and federal legislators, students, and parents, do differ over time in their degree of support to higher education and must be considered strategically as different demographic groups.

**Patrons: Some Key Assumptions About Environmental Forces On and Off Campus**

It seems safe to assume that the current concerns about the costs of attendance (up 170% at public colleges since 1970) expressed by government officials and parents off campus, and students and faculty on campus, will continue. It also seems clear that campus needs, especially for salaries and for capital repairs and renovation, will continue to be high priorities. Finally, all colleges must be concerned about the sensitivity of potential students and parents to the increasing costs of education, and the vagaries of investment instruments as major sources of institutional support.

**Patrons: Options and Choices Available**

Perhaps the option cited by most members of the academic world would be to try harder. Okay, but try harder at what? It is not enough simply to approach more targets for fundraising, or to lobby harder for more government aid. The campus must have a strategy. Our patrons must have a cause that fits our needs.

Colleges are using a variety of techniques to improve their position viz a viz patrons. Some use joint ventures (a la Ramapo's neuroscience

lab with American Cyanamid); some use licensing (a la Ramapo's programs with Rutgers and NJIT); some develop overseas operations; and some seek mergers. Three examples of mergers with quite different objectives are (1.) Hamilton and Kirkwood (a men's and women's college), (2.) Vanderbilt and Peabody (a comprehensive university with a single mission professional school), and (3.) Case Institute and Western Reserve (two highly regarded institutions which became even greater in combination than as independent campuses). Mergers could become more common as a strategy for coping with the changing mix of patrons and the changing nature of their support.

Applications for grants must be project-specific; unrestricted grants will be even more difficult to find. At Ramapo, we have formulated appeals for student scholarships and travel funds in terms that donors can identify with particular, working programmatic efforts, including urban needs, the humanities, and the sciences.

Still other initiatives can include leases and sale of assets, refinancing of debt (Ramapo will save nearly $800,000 by refinancing one bond), and by offering services such as art shows, college counseling, meeting facilities, and recreational programs for corporations in exchange for gifts and donations. The objective is to find donors whose particular interests are in those areas where the institution would spend unrestricted funds anyway.

**Patrons: Principles for Crafting Strategy**

In 1985 this author was asked to speak before a group of IBM executives, and wanted to find a theme with which they could identify and which would illustrate the similarities in strategy developed at IBM and under development at Ramapo. The metaphors of joint venture, licensing, and overseas development

were used to illustrate how Ramapo and IBM were acting in ways very different from their traditions. (See "Corporate Metaphors for College Growth", The New York Times, December 15, 1985, p. E15.) In earlier times, IBM, like higher education institutions, sponsored all activities, from research to development to manufacture to marketing to service. Only in recent years has IBM entered joint ventures and licensing agreements. And only in recent years have colleges and universities recognized that through joint arrangements, it is possible to find that the total can exceed the sum of the parts.

One principle to crafting strategy is to consider corporate and other models when developing college strategy. Another is to think in terms of services to meet goals; not in terms of resources only. Finally, develop proposals that appeal to the self-interest of potential donors; attempt to create actual exchanges of benefits.

## Conclusion

In conclusion, it must be said that the president is not only the chief executive officer; he or she is also the chief strategic planner, and must review demographic data about faculty and patrons as well as of students. The president must consult with both school and graduate school officials, corporate employers, legislators, and students. Only with knowledge of broad trends and an understanding of student and employer interests can a president hope to design and execute a strategic response to demographic changes that is sensitive to the institution's past, mission-based, student-oriented, and flexible enough to leave options open.

Part II

Strategic Responses to Demographic Changes

by

Dr. Robert A. Scott
President
RAMAPO COLLEGE OF NEW JERSEY

Based on an invited presentation at the Eastern Association of College and University Business Officers Annual Meeting, Pittsburgh, October 19, 1987

**TABLES**

Students

1. Teenage Roller Coaster
2. 18-Year-Olds, by Sex and Race, Selected Years, 1950-2050 (5)
3. Educational Attainment of the Population 25 Years Old and Older, 1980 (12)
4. Population, High School Graduates, and College Enrollment of 18-to-24-Year Olds by Race and Ethnicity, for Selected Years 1974-84 (in thousands)(14)

Faculty

5. Senior Instructional Staff by Employment Status and Institutional Type, Selected Years, 1970-1992 (114)
6. Selected Freshman Characteristics, by Sex of Student, 1966, 1972, and 1985 (135)
7. Selected Freshman Characteristics, by Sex of Student, 1966, 1972, and 1985, Continued (136)
8. Supply and Demand for Doctorates, 1976-1985 (39)
9. Earned Degrees in the Humanities: English, Selected Years, 1947-48--1982-83 (179)

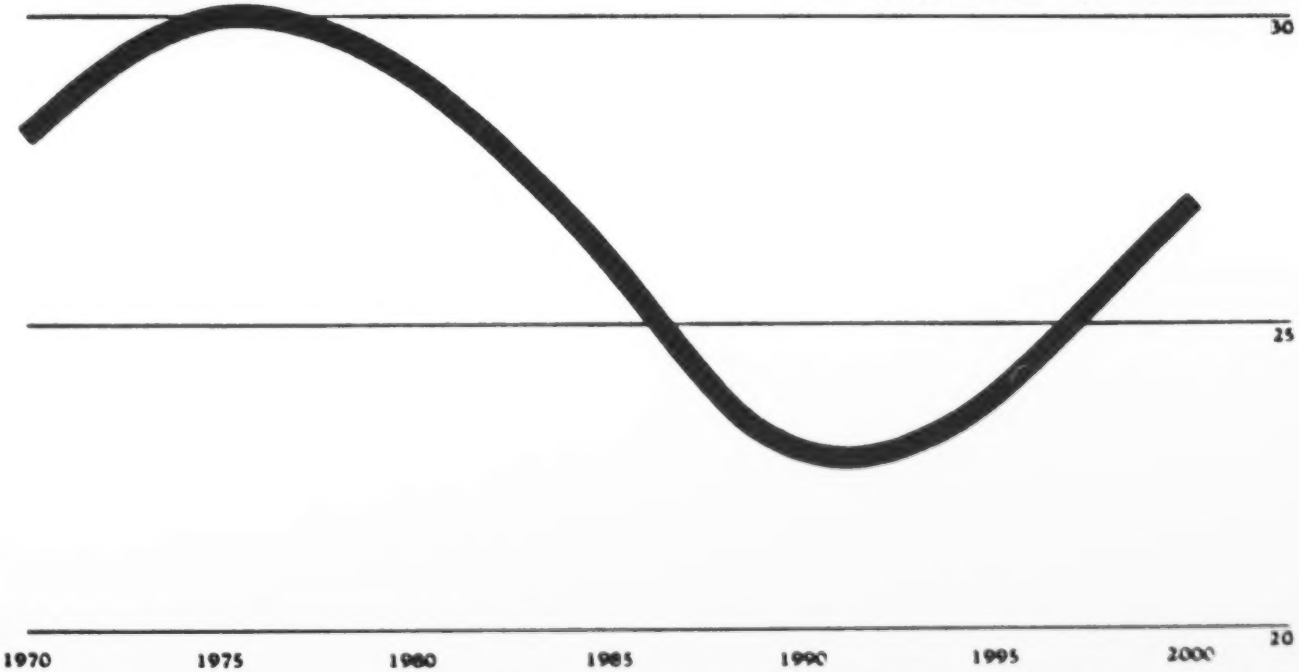
Patrons

10. Current Fund Revenues of Public Institutions of Higher Education, Selected Years, 1965-66--1981-82 (46)
11. Current Fund Revenues of Public Institutions of Higher Education, Selected Years, 1965-66--1981-82, Continued (47)
12. Voluntary Support of Institutions of Higher Education, 1970-71--1983-84 (43)
13. Aid Awarded to Postsecondary Students, in Current Dollars, Selected Years, 1963-64 to 1984-85 (in millions) (206)
14. Costs of Attendance, Income and Student Aid for Selected Academic Years, 1963-64 to 1983-84 (Current and Constant Dollars) (205)

Table 1

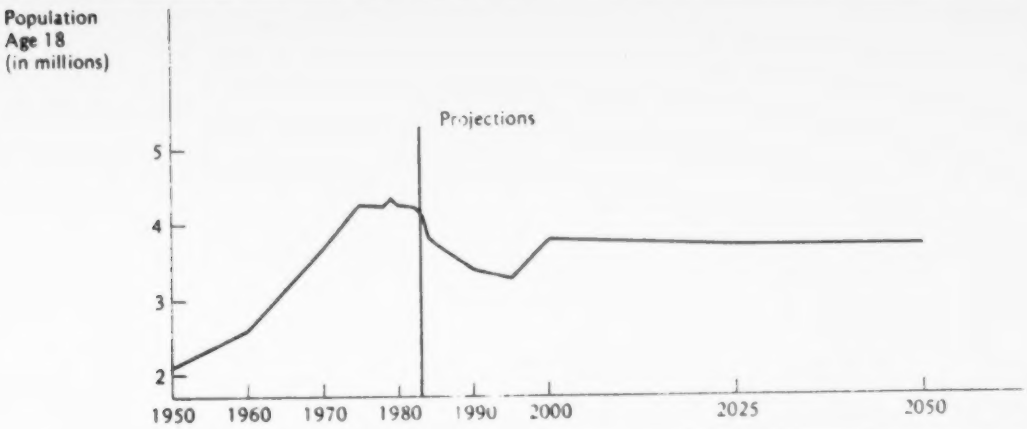
## TEENAGE ROLLERCOASTER

**The number of Americans aged 13 to 19 peaked in the mid-seventies and will decline through the early 1990s.**




Source: *Projections of the Population of the United States, by Age, Sex and Race: 1983 to 2080*. Current Population Reports, Series P-25 No. 952. U.S. Bureau of the Census

# 5 18-Year-Olds, by Sex and Race, Selected Years, 1950–2050




| | Population, Age 18[a] (in thousands) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | All Races | | | Black & Other Races | | | Black | | |
| Year | Total | Men | Women | Total | Men | Women | Total | Men | Women |
| 1950 | 2,164 | 1,090 | 1,074 | 271 | 133 | 138 | b | b | b |
| 1960 | 2,613 | 1,323 | 1,289 | 312 | 155 | 157 | 288 | 143 | 145 |
| 1970 | 3,781 | 1,914 | 1,868 | 512 | 254 | 259 | 463 | 229 | 234 |
| 1975 | 4,256 | 2,159 | 2,097 | 641 | 320 | 321 | 568 | 283 | 285 |
| 1976 | 4,266 | 2,164 | 2,101 | 646 | 323 | 323 | 570 | 284 | 286 |
| 1977 | 4,257 | 2,159 | 2,099 | 666 | 332 | 333 | 586 | 292 | 294 |
| 1978 | 4,247 | 2,157 | 2,090 | 670 | 335 | 335 | 588 | 292 | 295 |
| 1979 | 4,316 | 2,196 | 2,121 | 689 | 345 | 344 | 600 | 299 | 300 |
| 1980 | 4,256 | 2,165 | 2,090 | 697 | 350 | 347 | 601 | 300 | 300 |
| 1981 | 4,234 | 2,156 | 2,078 | 706 | 356 | 350 | 605 | 303 | 302 |
| 1982 | 4,188 | 2,140 | 2,049 | 712 | 361 | 351 | 606 | 306 | 301 |
| | Series II Projections[c] | | | | | | | | |
| 1983 | 4,015 | 2,046 | 1,969 | 701 | 353 | 348 | 595 | 299 | 296 |
| 1984 | 3,774 | 1,926 | 1,848 | 672 | 339 | 333 | 569 | 286 | 283 |
| 1985 | 3,658 | 1,863 | 1,795 | 643 | 324 | 319 | 540 | 270 | 269 |
| 1990 | 3,431 | 1,752 | 1,679 | 634 | 319 | 315 | 517 | 260 | 257 |
| 1995 | 3,332 | 1,702 | 1,603 | 620 | 313 | 307 | 496 | 250 | 246 |
| 2000 | 3,751 | 1,916 | 1,836 | 773 | 391 | 382 | 613 | 309 | 304 |
| 2025 | 3,675 | 1,878 | 1,797 | 835 | 432 | 422 | 667 | 334 | 328 |
| 2050 | 3,650 | 1,865 | 1,784 | 920 | 465 | 455 | 688 | 348 | 341 |

a Total population, including armed forces overseas as of July 1.

b Source does not estimate population for "Negro" or "black," only "nonwhite."

c Series II projections use a fertility assumption of 1.9 lifetime births per woman. Projections reflect the results of the 1980 Census.

**Sources:** U.S. Bureau of the Census, *Current Population Reports*, Series P-25 (Washington, GPO), No. 311, p. 22; No. 519, table 1; No. 704, table 8; No. 721, table 1; No. 800, table 1; No. 870, table 1; No. 917, table 1; No. 922, table 2; No. 952, tables 5 and 6.



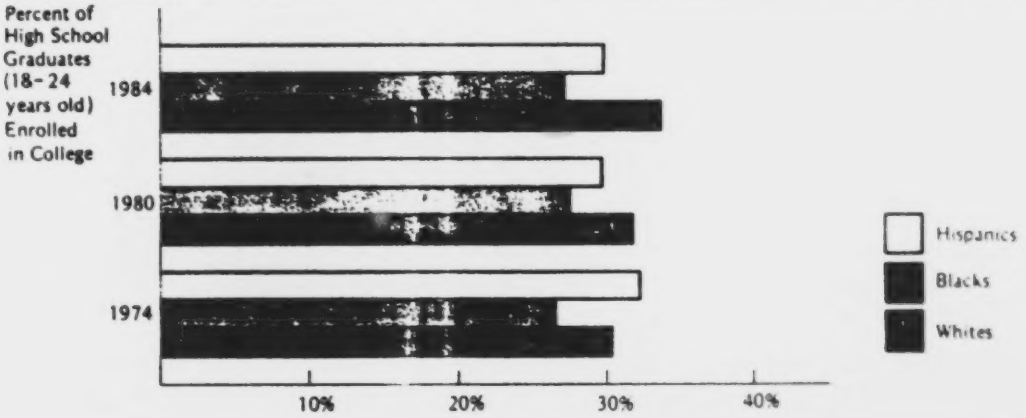
BEST COPY AVAILABLE

# 12 Educational Attainment of the Population 25 Years Old and Over, 1980

| Region and State | Population 25 Years Old and Over | Highest Level of Education Completed (Percent) | | | | | Percentage High School Graduates |
|---|---|---|---|---|---|---|---|
| | | | High School | | College | | |
| | | 0–8 Yrs. | 1–3 Yrs. | 4 Yrs. | 1–3 Yrs. | 4 Yrs. or More | |
| **Total U.S.** | **132,775,652** | **18.3** | **15.3** | **34.4** | **15.7** | **16.3** | **66.3** |
| **New England** | | | | | | | |
| Connecticut | 1,899,279 | 16.0 | 13.5 | 33.6 | 15.7 | 21.2 | 70.5 |
| Maine | 661,929 | 17.0 | 14.5 | 39.0 | 15.5 | 14.0 | 68.5 |
| Massachusetts | 3,463,235 | 13.6 | 13.7 | 37.1 | 15.6 | 20.0 | 72.7 |
| New Hampshire | 541,913 | 14.9 | 13.1 | 36.8 | 16.8 | 18.4 | 72.0 |
| Rhode Island | 574,890 | 20.5 | 18.8 | 32.8 | 12.6 | 15.3 | 60.7 |
| Vermont | 295,009 | 17.1 | 12.4 | 35.6 | 15.3 | 19.6 | 70.5 |
| **Mideast** | | | | | | | |
| Delaware | 344,158 | 15.2 | 16.9 | 37.3 | 14.3 | 16.3 | 67.8 |
| DC | 398,112 | 15.9 | 16.1 | 25.8 | 14.1 | 28.1 | 68.0 |
| Maryland | 2,497,821 | 17.4 | 15.9 | 32.2 | 14.7 | 19.8 | 66.7 |
| New Jersey | 4,501,658 | 17.6 | 14.6 | 36.0 | 13.2 | 18.6 | 67.0 |
| New York | 10,713,365 | 18.4 | 15.4 | 33.4 | 14.1 | 18.7 | 66.2 |
| Pennsylvania | 7,239,323 | 18.2 | 17.2 | 40.0 | 10.8 | 13.8 | 64.5 |
| **Southeast** | | | | | | | |
| Alabama | 2,216,888 | 24.4 | 18.8 | 31.6 | 12.5 | 12.7 | 56.7 |
| Arkansas | 1,336,869 | 27.4 | 17.7 | 34.2 | 11.0 | 9.7 | 54.9 |
| Florida | 6,245,990 | 17.5 | 15.3 | 35.2 | 17.3 | 14.7 | 67.2 |
| Georgia | 3,085,410 | 24.1 | 19.4 | 28.4 | 12.8 | 15.3 | 56.5 |
| Kentucky | 2,086,555 | 32.8 | 15.3 | 30.0 | 10.9 | 11.0 | 51.9 |
| Louisiana | 2,281,086 | 24.4 | 17.6 | 31.8 | 12.8 | 13.4 | 58.0 |
| Mississippi | 1,368,171 | 26.6 | 18.3 | 28.6 | 13.5 | 13.0 | 55.1 |
| North Carolina | 3,401,805 | 24.1 | 20.6 | 27.7 | 14.2 | 11.4 | 55.3 |
| South Carolina | 1,732,387 | 25.3 | 20.7 | 26.5 | 13.3 | 14.2 | 54.0 |
| Tennessee | 2,691,400 | 27.6 | 17.0 | 31.7 | 11.7 | 12.0 | 55.4 |
| Virginia | 3,131,138 | 21.5 | 16.0 | 28.7 | 14.7 | 19.1 | 62.5 |
| West Virginia | 1,147,016 | 27.5 | 15.9 | 36.0 | 10.1 | 10.5 | 56.6 |
| **Great Lakes** | | | | | | | |
| Illinois | 6,674,165 | 19.5 | 15.5 | 33.8 | 14.7 | 14.5 | 65.0 |
| Indiana | 3,134,984 | 16.8 | 17.3 | 41.6 | 11.9 | 12.4 | 65.9 |
| Michigan | 5,253,518 | 14.8 | 17.0 | 37.5 | 15.5 | 15.2 | 68.2 |
| Ohio | 6,289,826 | 15.0 | 17.6 | 39.6 | 13.0 | 14.8 | 67.4 |
| Wisconsin | 2,705,702 | 17.9 | 12.1 | 40.6 | 14.5 | 14.9 | 70.0 |

For source, see next page

# 14 Population, High School Graduates, and College Enrollment of 18-to-24-Year-Olds by Race and Ethnicity, for Selected Years 1974–84 (in thousands)




| Race and Years | All Persons | Persons 18 to 24 Years Old | | | | |
|---|---|---|---|---|---|---|
| | | High School Graduates[a] | | Percent | | |
| | | Total | Enrolled in College | High School Graduates | Enrolled in College | of High School Graduates Enrolled in College |
| **All Races** | | | | | | |
| 1974 | 25,670 | 20,725 | 6,316 | 80.7 | 24.6 | 30.5 |
| 1980[b] | 28,957 | 23,413 | 7,400 | 80.9 | 25.6 | 31.6 |
| 1981 | 28,965 | 23,343 | 7,575 | 80.6 | 26.2 | 32.5 |
| 1982 | 28,846 | 23,291 | 7,678 | 80.7 | 26.6 | 33.0 |
| 1983 | 28,580 | 22,988 | 7,477 | 80.4 | 26.2 | 32.5 |
| 1984 | 28,031 | 22,870 | 7,591 | 81.6 | 27.1 | 32.2 |
| **White** | | | | | | |
| 1974 | 22,141 | 18,318 | 5,589 | 82.7 | 25.2 | 30.5 |
| 1980[b] | 24,482 | 20,214 | 6,423 | 82.6 | 26.2 | 31.8 |
| 1981 | 24,486 | 20,123 | 6,549 | 82.2 | 26.7 | 32.5 |
| 1982 | 24,206 | 19,944 | 6,694 | 82.4 | 27.2 | 33.1 |
| 1983 | 23,899 | 19,643 | 6,463 | 82.2 | 27.0 | 32.9 |
| 1984 | 23,347 | 19,373 | 6,256 | 83.0 | 28.0 | 33.7 |
| **Black** | | | | | | |
| 1974 | 3,105 | 2,083 | 555 | 67.1 | 17.9 | 26.6 |
| 1980[b] | 3,721 | 2,592 | 715 | 69.7 | 19.2 | 27.6 |
| 1981 | 3,778 | 2,678 | 750 | 70.9 | 19.9 | 28.0 |
| 1982 | 3,872 | 2,744 | 767 | 70.9 | 19.8 | 28.0 |
| 1983 | 3,865 | 2,740 | 741 | 70.9 | 19.2 | 27.0 |
| 1984 | 3,862 | 2,885 | 786 | 74.7 | 20.4 | 27.2 |
| **Spanish Origin[c]** | | | | | | |
| 1974 | 1,506 | 842 | 272 | 55.9 | 18.1 | 32.3 |
| 1980 | 2,033 | 1,099 | 327 | 54.1 | 16.1 | 29.8 |
| 1981 | 2,052 | 1,144 | 342 | 55.8 | 16.7 | 29.9 |
| 1982 | 2,001 | 1,153 | 337 | 57.6 | 16.8 | 29.2 |
| 1983 | 2,025 | 1,110 | 349 | 54.8 | 17.2 | 31.4 |
| 1984 | 2,018 | 1,212 | 362 | 60.1 | 17.9 | 29.9 |

a High school graduates are persons who have completed four years of high school or more.

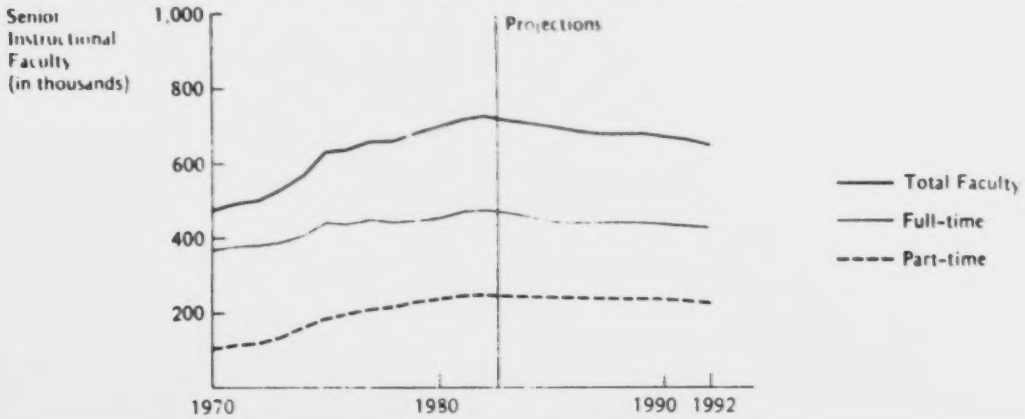
b Data for 1980 and all later years use 1980 Census-based estimates.

c May be of any race.

**Source:** U.S. Bureau of the Census, Current Population Reports P-20 (Washington: GPO), No. 404, November 1985, table 8.

**Table 5**

# 114 Senior Instructional Staff[a] by Employment Status and Institutional Type, Selected Years, 1970–1992




| Year (Fall) | Employment Status (in thousands) | | | Institutional Type (in thousands) | |
|---|---|---|---|---|---|
| | Total | Full-time | Part-time | Four-year | Two-year |
| 1970 | 474 | 369 | 104 | 382 | 92 |
| 1971[e] | 492 | 379 | 113 | 387 | 105 |
| 1972 | 500 | 380 | 120 | 384 | 116 |
| 1973[e] | 527 | 389 | 138 | 401 | 126 |
| 1974[e] | 567 | 406 | 161 | 427 | 140 |
| 1975[e] | 629 | 440 | 188 | 467 | 161 |
| 1976 | 633 | 434 | 199 | 467 | 166 |
| 1977[e] | 656 | 445 | 211 | 483 | 173 |
| 1978[e] | 656 | 441 | 215 | 485 | 171 |
| 1979 | 675 | 445 | 230 | 494 | 182 |
| 1980[e] | 696 | 458 | 238 | 506 | 190 |
| 1981[e] | 716 | 470 | 246 | 513 | 202 |
| 1982[e] | 721 | 472 | 249 | 513 | 208 |
| | | | Projections[b] | | |
| 1983 | 711 | 465 | 246 | 507 | 204 |
| 1984 | 703 | 460 | 243 | 501 | 202 |
| 1985 | 694 | 454 | 240 | 494 | 200 |
| 1986 | 684 | 447 | 237 | 485 | 198 |
| 1987 | 678 | 443 | 235 | 480 | 198 |
| 1988 | 677 | 442 | 235 | 478 | 199 |
| 1989 | 677 | 442 | 235 | 478 | 199 |
| 1990 | 670 | 437 | 233 | 473 | 197 |
| 1991 | 661 | 431 | 230 | 467 | 194 |
| 1992 | 648 | 423 | 225 | 457 | 191 |

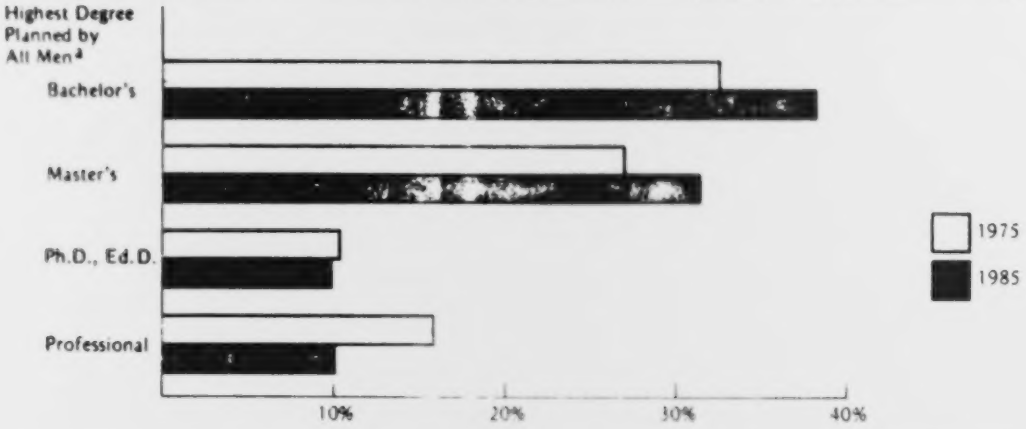
e Estimated.

a Faculty members with the title of professor, associate professor, instructor, lecturer, assisting professor, adjunct professor, or interim professor (or its equivalent). Excluded are graduate students with titles such as graduate or teaching fellow who assist senior staff.

b Intermediate projections are used.

**Source:** NCES, Projections of Education Statistics, 1992-93 (Washington: GPO), 1985, p. 80.

# 135 Selected Freshman Characteristics, by Sex of Student, 1966, 1972, and 1985




| | Percentage of Students[a] in All Institutions | | | | | |
|---|---|---|---|---|---|---|
| | Men | | | Women | | |
| Student Characteristics | 1966 | 1975 | 1985 | 1966 | 1975 | 1985 |
| **Highest Degree Planned** | | | | | | |
| None | 6.1 | 3.8 | 2.0 | 4.8 | 3.7 | 2.1 |
| Vocational Certificate | – | — | 1.4 | — | — | 1.0 |
| Associate Degree | 4.1 | 6.3 | 5.2 | 7.3 | 9.4 | 7.1 |
| Bachelor's | 32.5 | 32.7 | 38.1 | 46.1 | 37.0 | 38.1 |
| Master's | 31.2 | 27.1 | 31.5 | 32.3 | 29.6 | 31.7 |
| Ph.D. or Ed.D. | 13.7 | 10.4 | 9.9 | 5.2 | 7.6 | 8.6 |
| M.D., D.O., D.D.S., or D.V.M. | 7.4 | 8.8 | 5.9 | 1.4 | 5.5 | 6.0 |
| L.L.B. or J.D. | 2.5 | 6.2 | 3.8 | 1 | 3.1 | 3.4 |
| B.D. or M. Div. | .5 | .9 | .4 | .1 | .4 | .3 |
| Other | 2.1 | 1.9 | 1.6 | 1.8 | 1.7 | 1.7 |
| **Racial Background** | | | | | | |
| White/Caucasian | 90.9 | 87.2 | 87.3 | 90.3 | 85.6 | 85.1 |
| Black/Negro/Afro-American | 4.5 | 8.0 | 8.1 | 5.6 | 10.1 | 10.0 |
| American Indian | .5 | .9 | 1.0 | .6 | .8 | 1.0 |
| Oriental | .8 | 1.6 | 2.1 | .7 | 1.3 | 1.8 |
| Mexican-American/Chicano | — | 1.8 | 1.0 | — | 1.6 | 1.4 |
| Puerto Rican-American | — | .7 | .6 | — | .6 | .7 |
| Other | 1.1 | 2.1 | 1.5 | 2.7 | 1.7 | 1.5 |
| **Concern about Financing Education** | | | | | | |
| No concern | 34.1 | 40.1 | 40.7 | 33.3 | 32.8 | 30.8 |
| Some concern | 57.0 | 45.1 | 47.5 | 55.5 | 49.0 | 53.8 |
| Major concern | 8.1 | 14.8 | 11.9 | 11.2 | 18.2 | 15.5 |
| **Average Grade in High School** | | | | | | |
| A−, A, A+ | 11.3 | 14.6 | 17.7 | 20.2 | 22.7 | 23.6 |
| B−, B, B+ | 49.5 | 57.9 | 56.7 | 59.6 | 63.1 | 59.9 |
| C, C+ | 37.9 | 26.8 | 24.9 | 19.9 | 14.1 | 16.2 |
| D | 1.1 | .7 | .7 | .3 | .2 | .3 |
| **Objectives Considered to Be Very Important** | | | | | | |
| Help others in difficulty | 59.2 | 58.4 | 55.1 | 79.5 | 74.4 | 70.9 |
| Be an authority in my field | 70.3 | 73.0 | 73.1 | 60.8 | 66.0 | 69.4 |
| Be very well off financially | 54.1 | 57.8 | 75.4 | 31.6 | 40.3 | 66.8 |
| Raise a family | na | 56.2 | 69.3 | na | 57.1 | 70.3 |
| Obtain recognition from colleagues | 48.0 | 47.0 | 52.1 | 36.3 | 38.9 | 53.5 |

(Continued on next page)

— Item not shown in report

a Weighted national norms for full-time freshmen based on data from a sample of over 1,200 students each year.

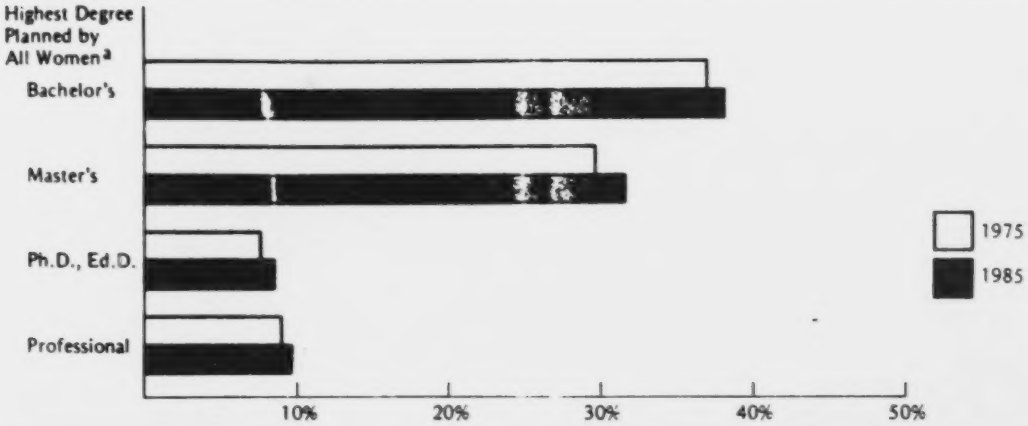
b Listed as psychology, sociology, anthropology in 1966. c Listed as Hungarian in 1966.

d Listed as doctor M.D. in 1966. e Listed as [illegible] in 1966. na Not available.



BEST COPY AVAILABLE

# 136 Selected Freshman Characteristics, by Sex of Student, 1966, 1971, and 1985—*Continued*




| | Percentage of Students[a] in All Institutions | | | | | |
|---|---|---|---|---|---|---|
| | Men | | | Women | | |
| **Student Characteristics** | **1966** | **1975** | **1985** | **1966** | **1975** | **1985** |
| **Probable Major Field of Study** | | | | | | |
| Agriculture (incl. forestry) | 3.4 | 5.7 | 3.2 | .1 | 1.9 | 1.0 |
| Biological sciences | 4.2 | 7.1 | 3.4 | 3.1 | 5.5 | 3.3 |
| Business | 17.3 | 20.1 | 25.7 | 10.9 | 17.5 | 27.5 |
| Education | 4.7 | 4.6 | 3.3 | 17.5 | 15.5 | 10.4 |
| Engineering | 17.9 | 14.0 | 19.3 | .3 | 1.3 | 3.0 |
| English | 1.9 | .7 | .7 | 7.3 | 1.4 | 1.3 |
| Fine Arts | 6.8 | 6.0 | 4.7 | 10.3 | 6.3 | 4.2 |
| Health professional (non-M.D.) | 1.5 | 1.8 | 1.3 | 9.8 | 13.2 | 9.8 |
| History, political science | 7.8 | 4.3 | 3.4 | 5.7 | 2.6 | 2.7 |
| Humanities (other) | 2.4 | 1.7 | 1.0 | 7.4 | 2.5 | 1.7 |
| Mathematics or statistics | 4.6 | 1.1 | .8 | 4.5 | 1.1 | .8 |
| Physical science | 5.0 | 4.0 | 2.3 | 1.2 | 1.3 | .9 |
| Pre-professional | 11.3 | — | 5.7 | 2.3 | — | 3.2 |
| Social sciences | 5.2[b] | 3.7 | 2.7 | 11.7[b] | 8.9 | 7.3 |
| Other fields | 4.0 | 20.5 | 18.7 | 6.1 | 15.5 | 16.0 |
| Undecided | 1.9 | 4.6 | 4.7 | 1.8 | 5.5 | 6.9 |
| **Probable Career Occupation** | | | | | | |
| Artist (incl. performer) | 4.6 | 4.1 | 5.6 | 8.9 | 6.5 | 7.5 |
| Businessman | 18.5 | 17.2 | 25.2 | 3.3 | 10.0 | 22.7 |
| Clergy or religious worker[c] | 1.2 | 1.0 | .5 | .8 | .4 | .1 |
| Doctor (M.D. or D.D.S.)[d] | 7.4 | 6.6 | 4.8 | 1.7 | 3.3 | 3.8 |
| Educator (college teacher) | 2.1 | .6 | .3 | 1.5 | .6 | .2 |
| Educator (secondary ed.) | 10.5 | 2.7 | 2.1 | 18.4 | 4.5 | 2.8 |
| Educator (elementary ed.) | .8 | .5 | .5 | 15.7 | 5.8 | 6.7 |
| Engineer | 16.3 | 10.2 | 17.7 | .2 | 1.1 | 2.9 |
| Farmer or forester[e] | 3.2 | 5.7 | 1.2 | .2 | 1.5 | .7 |
| Health professional (non-M.D.) | 3.1 | 5.2 | 2.7 | 6.6 | 12.8 | 8.0 |
| Lawyer | 6.7 | 5.4 | 4.1 | .7 | 2.5 | 3.7 |
| Nurse | .1 | .3 | .1 | 5.3 | 9.9 | 6.2 |
| Research scientist | 4.9 | 2.5 | 1.7 | 1.9 | 1.5 | 1.2 |
| Other occupation | 15.8 | 24.5 | 24.0 | 31.0 | 25.9 | 21.3 |
| Undecided | 5.0 | 13.5 | 9.2 | 3.6 | 13.8 | 12.1 |

For footnotes, see preceding page.

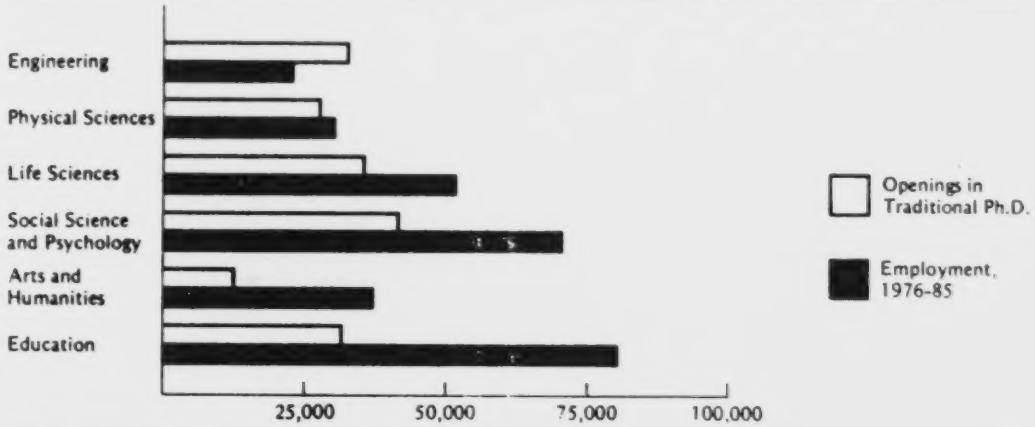
Sources:

1 Alexander Astin, Robert J. Panos, John A. Creager, *National Norms for Entering College Freshmen* (Washington: ACE), *Fall 1966*, pp. 5–9, 12–16.

2 Alexander W. Astin, et al., *The American Freshman: National Norms for Fall 1975* (Los Angeles: Higher Education Research Institute, UCLA): 1975, pp. 17, 20, 25, 28–29, 32, 40; 1985, pp. 9, 14–16, 23, 26, 28, 31–33, 44.

Table 8

# 39 Supply and Demand for Doctorates, 1976–1985




| | Estimated Openings for Traditional Ph.D. Employment,[a] 1976–1985 | | |
|---|---|---|---|
| | | Created by | |
| Field | Total | Growth[a] | Death & Retirement |
| **All Fields** | **192.8** | **138.1** | **54.7** |
| Engineering & natural science | 100.8 | [illegible] | 28.3 |
| Engineering | 32.4 | 25.5 | 7.0 |
| Physical science | 27.4 | 17.9 | 9.5 |
| Chemistry | 14.7 | 9.4 | 5.2 |
| Physics | 3.7 | [illegible] | 2.2 |
| Life science | 35.4 | 25.6 | 9.8 |
| Mathematics | 5.6 | 3.5 | 2.0 |
| Social science & physchology | 41.5 | 31.2 | 10.3 |
| Arts and humanities | 12.4 | [illegible] | 5.1 |
| Education | 31.5 | 22.5 | 9.1 |
| Business and commerce | 2.9 | 2.1 | .8 |
| Other fields | 3.6 | 2.6 | 1.1 |

| | Projected New Supply of Ph.D.'s, 1976–1985[b] | Estimated Openings for Traditional Ph.D. Employment, 1976–1985 | Difference between New Supply and Openings in Traditional Ph.D. Employment[c] | |
|---|---|---|---|---|
| | | | Number | Percentage of New Supply |
| **All Fields** | **323.0** | **192.8** | **130.2** | **40.3** |
| Engineering & natural science | 114.7 | 100.8 | 13.8 | 12.1 |
| Engineering | 22.7 | 32.4 | −9.7 | −42.8 |
| Physical sciences | 30.7 | 27.4 | 3.3 | 10.8 |
| Chemistry | 16.6 | 14.7 | 1.8 | 11.2 |
| Physics | 7.6 | 3.7 | 3.9 | 51.2 |
| Life science | 51.7 | 35.4 | 16.2 | 31.4 |
| Mathematics | 9.6 | 5.6 | 4.0 | 41.6 |
| Social science & psychology | 70.5 | 41.5 | 29.0 | 41.2 |
| Arts and humanities | 37.0 | 12.4 | 24.6 | 66.6 |
| Education | 80.4 | 31.5 | 48.8 | 60.8 |
| Business and commerce | 8.0 | 2.9 | 5.1 | 63.6 |
| Other fields | 12.4 | 3.6 | 8.8 | 70.8 |

**Note:** Figures are in thousands, except for percentages.

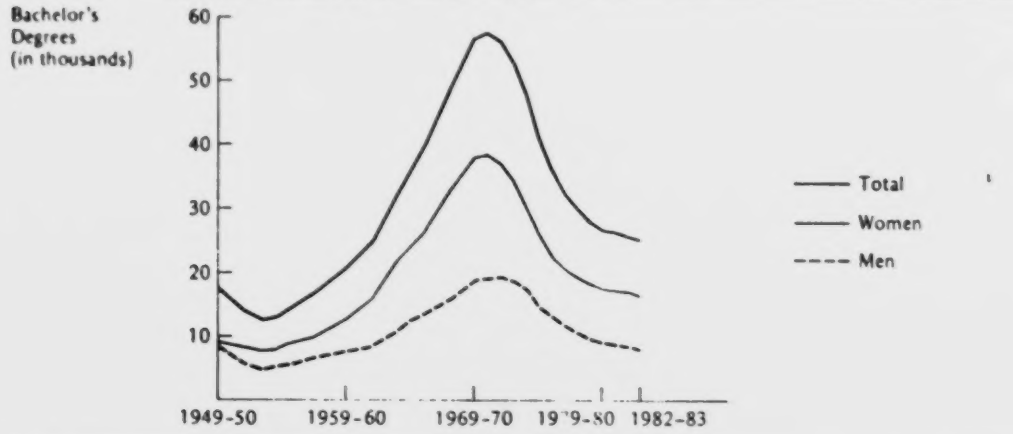
a Openings resulting from growth are based on 1966–70 trends in the proportion of workers in each occupational field holding a doctorate. Job openings result from growth in the number of workers in each occupation and from the educational upgrading of jobs.

b Based on NCES projections.

c Does not take into account the 80,200 Ph.D.'s employed in 1976 in "nontraditional Ph.D. jobs." These individuals may try to change to "traditional Ph.D." jobs during the 1976–85 period and thus increase the competition for "traditional Ph.D." employment.

**Source:** Douglas Braddock, "The Oversupply of Ph.D.'s to Continue through 1985," *Monthly Labor Review*, Vol. 101, No. 10, October 1978, pp. 48–50.

# 179 Earned Degrees in the Humanities: English, Selected Years, 1947–48—1982–83

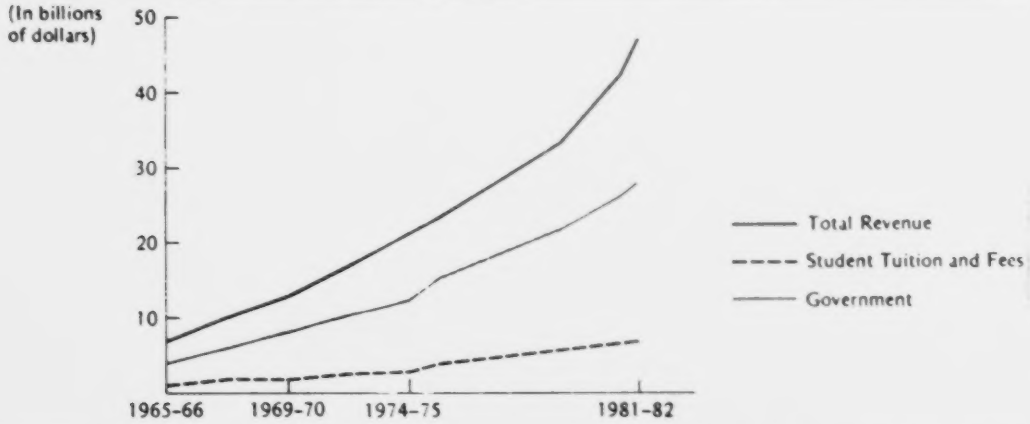



| Year | Earned Degrees in English[a] | | | | |
|---|---|---|---|---|---|
| | Bachelor's | | | Master's[b] (Second Level) | Doctor's |
| | Total | Men | Women | | |
| 1947–48 | 12,614 | 4,392 | 8,222 | 2,015 | 178 |
| 1949–50 | 17,246 | 8,223 | 9,023 | 2,259 | 230 |
| 1951–52 | 14,087 | 5,805 | 8,282 | 1,922 | 284 |
| 1953–54 | 12,566 | 4,729 | 7,837 | 1,674 | 356 |
| 1954–55 | 13,099 | 5,121 | 7,978 | 1,669 | 341 |
| 1955–56 | 14,406 | 5,530 | 8,876 | 1,892 | 382 |
| 1957–58 | 16,669 | 6,755 | 9,914 | 2,319 | 333 |
| 1959–60 | 20,184 | 7,597 | 12,587 | 2,931 | 397 |
| 1961–62 | 24,413 | 8,553 | 15,860 | 3,514 | 486 |
| 1963–64 | 32,758 | 10,987 | 21,771 | 4,443 | 556 |
| 1964–65 | 36,207 | 12,366 | 23,841 | 5,077 | 689 |
| 1965–66 | 39,192 | 13,244 | 25,948 | 6,265 | 699 |
| 1967–68 | 48,136 | 15,735 | 32,391 | 7,924 | 977 |
| 1969–70 | 56,508 | 18,675 | 37,833 | 8,486 | 1,205 |
| 1970–71 | 57,124 | 19,020 | 38,104 | 8,946 | 1,441 |
| 1971–72 | 56,094 | 19,195 | 36,899 | 8,717 | 1,591 |
| 1972–73 | 52,606 | 18,571 | 34,035 | 8,157 | 1,631 |
| 1973–74 | 47,468 | 17,133 | 30,335 | 7,914 | 1,616 |
| 1974–75 | 40,387 | 14,754 | 25,633 | 7,414 | 1,507 |
| 1975–76 | 35,843 | 13,325 | 22,518 | 7,246 | 1,511 |
| 1976–77 | 32,376 | 11,878 | 20,498 | 6,539 | 1,318 |
| 1977–78 | 30,069 | 10,912 | 19,157 | 6,380 | 1,265 |
| 1978–79 | 27,956 | 9,819 | 18,137 | 5,545 | 1,137 |
| 1979–80 | 26,638 | 9,032 | 17,606 | 5,122 | 1,131 |
| 1980–81 | 26,006 | 8,788 | 17,218 | 4,948 | 1,047 |
| 1981–82 | 26,152 | 8,692 | 17,460 | 4,809 | 974 |
| 1982–83 | 25,289 | 8,461 | 16,848 | 4,316 | 885 |

a Prior to 1955–56, this field was listed in USOE reports as "English." In reports for 1955–56, the field is listed as "English and literature," and instructions directed that data for comparative literature be included. Beginning in 1967–68, creative writing and language arts were also specifically included. Data for 1970–71 and later show totals for the following fields: *English, general, English literature, comparative literature, classics,* and *creative writing.*

Source: USOE/NCES earned degree series.

# 46 Current Fund Revenues of Public Institutions of Higher Education, Selected Years, 1965–66—1981–82




| Kind of Revenues | Amount (in millions of dollars) | | | | |
|---|---|---|---|---|---|
| | 1965–66 | 1967–68 | 1969–70 | 1971–72 | 1973–74 |
| **Total Current Fund Revenues** | **7,397.7** | **10,432.1** | **13,768.6** | **17,079.9** | **21,206.5** |
| Total Educational & General[a] | (6,047.3) | (8,645.1) | (11,254.6) | (14,015.4) | (17,474.3) |
| Student Tuition & Fees | 854.5 | 1,205.0 | 1,735.0 | 2,332.5 | 2,734.7 |
| Government[a] | (4,605.6) | (6,437.5) | (8,412.1) | (10,334.9) | (12,951.0) |
| Federal[a] | 1,368.2 | 1,839.7 | 2,012.8 | 2,420.2 | 2,793.2 |
| State | 2,926.8 | 4,115.2 | 5,684.5 | 6,969.9 | 8,961.9 |
| Local | 310.6 | 482.6 | 714.8 | 944.8 | 1,195.9 |
| Endowment Income | 29.9 | 35.8 | 57.1 | 55.2 | 76.9 |
| Private Gifts & Grants[b] | 156.4 | 215.6 | 262.5 | 322.6 | 430.7 |
| Other Educational & General | 400.9 | 751.2 | 787.9 | 970.2 | 1,281.0 |
| Auxiliary Enterprises | 1,210.2 | 1,438.3 | 1,727.5 | 2,018.7 | 2,324.4 |
| Student Aid Grants[c] | 140.2 | 258.7 | 349.1 | 415.4 | 493.9 |
| Other Current Revenues[d] | nr | nr | 437.4 | 630.4 | 913.9 |

(Continued on next page)

**Note:** Data are for 50 states and D.C. Because of rounding, details may not add to totals. Figures in parentheses are subtotals. Data for 1974–75 and later are not strictly comparable to previous data. A major change in reporting categories and definitions was incorporated into the 1974–75 questionnaire to make it coincide with new standards of college and university financial reporting set forth in publications of the National Association of College and University Business Officers, NCES, and the American Institute of Certified Public Accountants.

nr: Not reported.

a Includes data for Federally Funded Research and Development Centers (FFRDC's). Beginning 1969–70 some NCES reports have included FFRDC data in "other current income" or "independent operations." In this table, in order to increase comparability with earlier years, estimates of revenue for FFRDC's have been included in those categories in which they were reported previously.

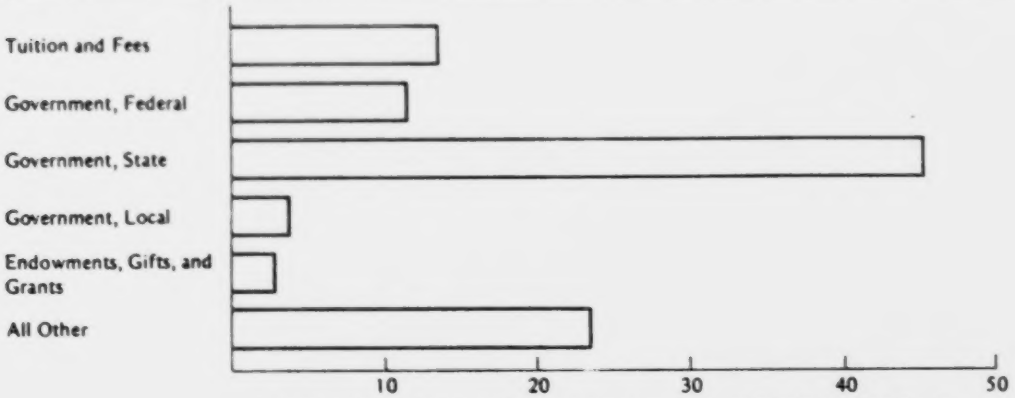
b From 1967–68 through 1973–74, includes nongovernmental funds for "sponsored research" and "other sponsored programs."

c Includes federal, state, and local government and private grants specifically designated for student aid.

d From 1969–70 through 1973–74, includes data for hospitals in which service to the community was paramount.

For sources, see next page.

# 47 Current Fund Revenues of Public Institutions of Higher Education, Selected Years, 1965–66—1981–82—*Continued*




| Kind of Revenue | Amount (in millions of dollars) | | | Percent Distribution | | |
|---|---|---|---|---|---|---|
| | 1974–75 | 1978–79 | 1981–82 | 1974–75 | 1978–79 | 1981–82 |
| **Total Current Fund Revenues** | **24,004.9** | **34,527.5** | **47,270.8** | **100.0** | **100.0** | **100.0** |
| Student Tuition and Fees | 3,078.5 | 4,380.6 | 6,394.8 | 12.8 | 12.7 | 13.5 |
| Government* | (15,731.4) | (22,018.6) | (28,527.4) | (65.5) | (63.8) | (60.3) |
| Federal* | 3,786.1 | 4,539.1 | 5,373.4 | 15.8 | 13.1 | 11.4 |
| State | 10,608.5 | 16,018.1 | 21,397.0 | 44.2 | 46.4 | 45.3 |
| Local | 1,336.8 | 1,461.4 | 1,757.0 | 5.6 | 4.2 | 3.7 |
| Endowment Income | 106.6 | 153.6 | 244.1 | .4 | .4 | .5 |
| Private Gifts & Grants | 556.7 | 835.9 | 1,277.0 | 2.3 | 2.4 | 2.7 |
| Sales & Services of Educational Activities | 372.9 | 698.8 | 1,071.7 | 1.6 | 2.0 | 2.3 |
| Other | 488.2 | 683.3 | 1,207.2 | 2.0 | 2.0 | 2.6 |
| Auxiliary Enterprises | 2,548.5 | 3,627.9 | 5,122.6 | 10.6 | 10.5 | 10.8 |
| Sales & Services of Hospitals | 1,122.2 | 2,128.7 | 3,426.0 | 4.7 | 6.2 | 7.2 |

For footnotes, see preceding page.

Sources:

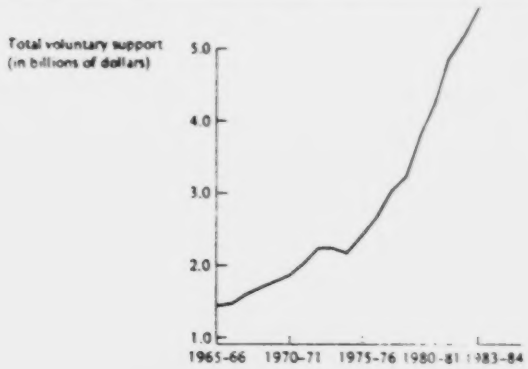
1 NCES, *Financial Statistics of Institutions of Higher Education, Current Funds Revenues and Expenditures* (Washington: GPO), *1965–66* p. 10; *1967–68*, p. 12; *1969–70*, pp. 14, 15; *1971–72*, pp. 16, 17; *1973–74*, p. 10; *Fiscal Year 1975*, p. 6; *Fiscal Year 1977*, p. 6; *Fiscal Year 1979*, p. 14.

2 NCES (Washington, 1985), unpublished data.

3 National Science Foundation (NSF), *Federal Support to Universities, Colleges, and Selected Nonprofit Institutions* (Washington: GPO), *Fiscal Year 1972*, p. 20; *Fiscal Year 1973*, p. 13; *Fiscal Year 1974*, p. 19.

4 NSF, *Federal Funds for Research, Development, and Other Scientific Activities, Fiscal Years 1974, 1975 and 1976, Detailed Statistical Tables, Appendixes C & D* (Washington: GPO), 1975, table C-1.

# 43 Voluntary Support of Institutions of Higher Education, 1970–71—1983–84




| | Voluntary Support (in millions of dollars) | | | | |
|---|---|---|---|---|---|
| | For All Institutions[a] | | Per student | | |
| | | | | Constant 1967 Dollars[b] | |
| Year | Total Amount | Percent Change | Current Dollars | Amount | Percent Change |
| 1970–71 | 1,860 | 4.5 | 217 | 182 | −7.1 |
| 1971–72 | 2,020 | 8.6 | 226 | 183 | .5 |
| 1972–73 | 2,240 | 10.9 | 243 | 188 | 2.7 |
| 1973–74 | 2,240 | 0.0 | 233 | 166 | −11.7 |
| 1974–75 | 2,160 | −3.6 | 211 | 137 | −17.5 |
| 1975–76 | 2,410 | 11.6 | 213 | 128 | −6.6 |
| 1976–77 | 2,670 | 10.8 | 240 | 136 | 6.2 |
| 1977–78 | 3,040 | 13.9 | 269 | 143 | 5.1 |
| 1978–79 | 3,230 | 6.3 | 284 | 138 | −3.5 |
| 1979–80 | 3,800 | 17.6 | 325 | 140 | 1.4 |
| 1980–81 | 4,230 | 11.3 | 350 | 135 | −3.6 |
| 1981–82 | 4,860 | 14.9 | 393 | 140 | 3.7 |
| 1982–83 | 5,160 | 6.2 | 418 | 142 | 1.4 |
| 1983–84 | 5,600 | 8.5 | 449 | 147 | 3.5 |

| | 1971–72 | | 1975–76 | | 1983–84 | |
|---|---|---|---|---|---|---|
| | Amount | Percentage | Amount | Percentage | Amount | Percentage |
| **All Sources** | **2,020** | **100.0** | **2,410** | **100.0** | **5,600** | **100.0** |
| Foundations | 523 | 25.9 | 549 | 22.8 | 1,081 | 19.3 |
| Non-alumni individuals | 493 | 24.4 | 569 | 23.6 | 1,316 | 23.5 |
| Alumni | 481 | 23.8 | 588 | 24.4 | 1,305 | 23.3 |
| Business corporations | 275 | 13.6 | 379 | 15.7 | 1,271 | 22.7 |
| Religious denominations | 101 | 5.0 | 130 | 5.4 | 190 | 3.4 |
| Other | 147 | 7.3 | 195 | 8.1 | 437 | 7.8 |

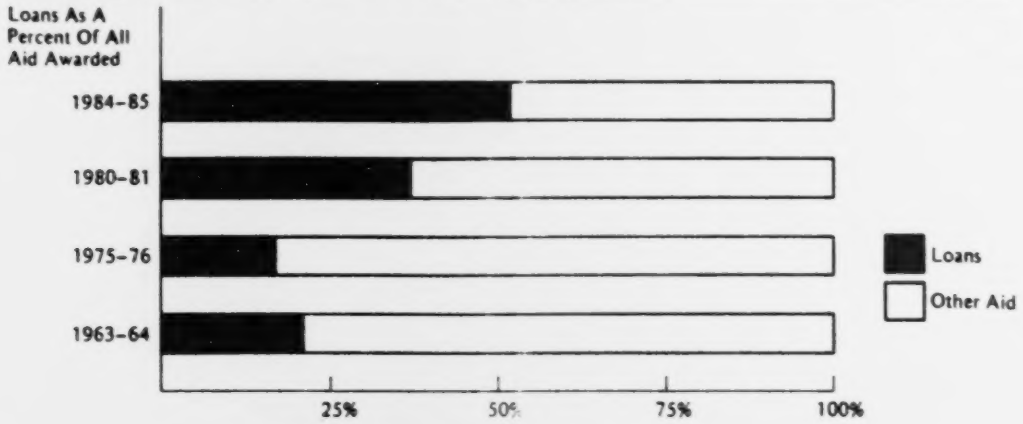
na: Not applicable.

a Estimate for all institutions of higher education based on data from institutions responding to questionnaire; includes giving for current operations and capital purposes.

b Current dollar estimate converted by the Consumer Price Index (CPI, 100 = 1967) which, in turn, was converted to an academic year basis by averaging the CPI for the two calendar years that make up the academic year.

Source: Council on Financial Aid to Education (CFAE), *Voluntary Support to Education* (New York: CFAE), 1971–72, p. 4; 1973–74, p. 5; 1975–76, pp. 4, 6; 1976–77, pp. 4–7; 1978–79, pp. 4, 6; 1979–80, pp. 4, 5; 1981–82, pp. 4, 5; 1982–83, pp. 4, 5; 1983–84, pp. 4, 5.

# 206 Aid Awarded to Postsecondary Students, in Current Dollars, Selected Years, 1963–64 to 1984–85 (in millions)




| | Academic Year | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1963–64 | 1970–71 | 1975–76 | 1977–78 | 1980–81 | 1981–82 | 1982–83[e] | 1983–84[e] | 1984–85[e] |
| **Federally Supported Programs** | | | | | | | | | |
| **Generally Available** | | | | | | | | | |
| Pell | — | — | $ 936 | $ 1,588 | $ 2,387 | $ 2,299 | $ 2,420 | $ 2,785 | $ 2,773 |
| SEOG | — | 134 | 201 | 243 | 366 | 362 | 343 | 353 | 374 |
| SSIG[a] | — | — | 20 | 60 | 76 | 77 | 73 | 60 | 76 |
| CWS | — | 227 | 295 | 469 | 658 | 624 | 630 | 700 | 664 |
| NDSL | 114 | 240 | 460 | 615 | 695 | 580 | 595 | 595 | 585 |
| GSL-PLUS | — | 1,015 | 1,267 | 1,737 | 6,204 | 7,307 | 6,609 | 7,798 | 8,466 |
| Subtotal | 114 | 1,616 | 3,179 | 4,712 | 10,387 | 11,249 | 10,671 | 12,291 | 12,938 |
| **Specially Directed** | | | | | | | | | |
| Social Security[b] | — | 499 | 1,093 | 1,370 | 1,883 | 1,996 | 733 | 220 | 35 |
| Veterans[c] | 67 | 1,121 | 4,180 | 2,598 | 1,714 | 1,351 | 1,356 | 1,056 | 836 |
| Other Grants | 9 | 16 | 64 | 83 | 119 | 102 | 82 | 60 | 60 |
| Other Loans | — | 42 | 45 | 42 | 61 | 88 | 157 | 198 | 279 |
| Subtotal | 76 | 1,678 | 5,381 | 4,093 | 3,777 | 3,536 | 2,328 | 1,534 | 1,210 |
| **Total Federal** | 190 | 3,295 | 8,561 | 8,805 | 14,464 | 14,785 | 12,999 | 13,825 | 14,148 |
| **State Grant Programs** | 56 | 236 | 490 | 677 | 801 | 921 | 1,006 | 1,126 | 1,257 |
| **Institutionally Awarded Aid** | 300 | 965 | 1,435 | 1,596 | 2,138 | 2,323 | 2,425 | 2,512 | 2,634 |
| **Total All Programs** | 546 | 4,496 | 10,486 | 11,078 | 17,104 | 18,028 | 16,430 | 17,464 | 18,040 |

See preceding page for sources.

a Before 1973–74, the program was called the Educational Opportunity Program.

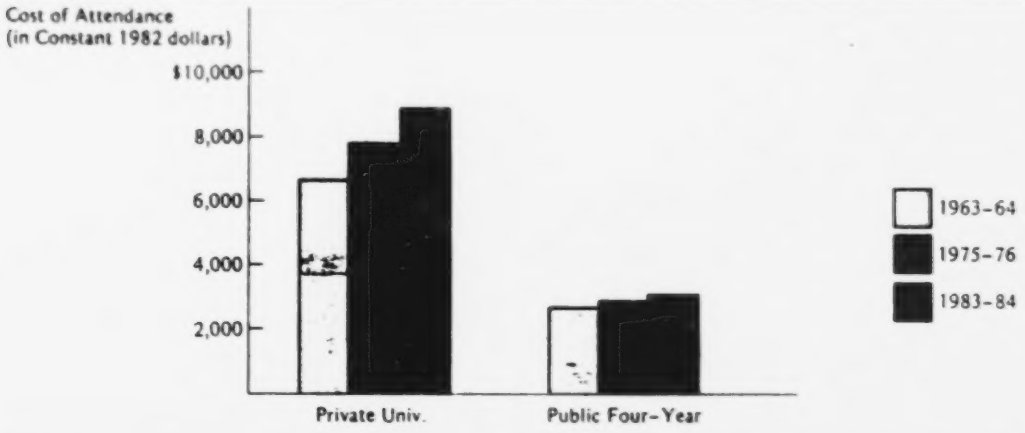
b Amounts are estimated because Social Security Administration records do not distinguish expenditures for postsecondary and lower-level education.

c Records of Veterans Benefits spent for postsecondary education are not available prior to 1972–73; the amounts spent on higher education were estimated.

Note: All aid amounts are awards to postsecondary students during the academic year, defined as June through July.

e Estimated.

# 205 Costs of Attendance, Income, and Student Aid for Selected Academic Years, 1963–64 to 1983–84 (Current and Constant Dollars)




**Current Dollars**

| Year | Costs of Attendance[a] | | | Income[b] | | Aid per FTE |
|---|---|---|---|---|---|---|
| | Private University | Public Four Year[c] | Community College | Personal Disposable (Per Capital) | Median Family | |
| 1963–64 | $2,105 | $ 846 | $ 630 | $2,144 | $ 6,548 | 148 |
| 1970–71 | 3,163 | 1,209 | 1,017 | 3,390 | 9,867 | 667 |
| 1975–76 | 4,467 | 1,657 | 1,386 | 5,075 | 13,719 | 1,236 |
| 1977–78 | 5,193 | 1,924 | 1,590 | 5,965 | 16,009 | 1,316 |
| 1979–80 | 5,888 | 2,198 | 1,817 | 7,331 | 19,587 | 1,683 |
| 1980–81 | 6,566 | 2,420 | 2,018 | 8,032 | 21,023 | 1,939 |
| 1981–82 | 7,439 | 2,701 | 2,250 | 8,874 | 22,388 | 2,000 |
| 1982–83 | 8,537 | 3,032 | 2,390 | 9,385 | 23,433 | 1,807 |
| 1983–84 | 9,310 | 3,260 | na | 9,977 | 24,580 | 1,950 |
| 1984–85 | na | na | na | na | na | 2,038 |
| | | | Constant 1982 Dollars | | | |
| 1963–64 | $6,586 | $2,647 | $1,971 | $6,759 | $20,644 | $ 462 |
| 1970–71 | 7,684 | 2,937 | 2,471 | 8,427 | 24,528 | 1,621 |
| 1975–76 | 7,770 | 2,882 | 2,411 | 9,102 | 24,604 | 2,151 |
| 1977–78 | 8,003 | 2,965 | 2,450 | 9,501 | 25,500 | 2,029 |
| 1979–80 | 7,318 | 2,732 | 2,258 | 9,749 | 26,047 | 2,092 |
| 1980–81 | 7,318 | 2,697 | 2,249 | 9,409 | 24,626 | 2,161 |
| 1981–82 | 7,629 | 2,770 | 2,307 | 9,418 | 23,761 | 2,051 |
| 1982–83 | 8,392 | 2,980 | 2,349 | 9,385 | 23,433 | 1,776 |
| 1983–84 | 8,836 | 3,094 | na | 9,666 | 23,814 | 1,851 |
| 1984–85 | na | na | na | na | na | 1,844 |

na Not available.

a Costs are for the nine-month academic year, and include tuition, fees, room and board.

b Income is for the calendar year in which the academic year begins.

c The public four-year category does not include universities.

Sources: Donald A. Gillespie and Nancy Carlson, *Trends in Student Aid: 1963 to 1983* (Washington: Washington Office of the College Board), 1983 pp. 5, 20. Copyright (©) 1983 by the College Entrance Examination Board, New York. Reprinted with permission.

Washington Office of the College Board, Update, *Trends in Student Aid: 1980 to 1984*, (Washington: Washington Office of the College Board) 1984 pp. 5, 9. Copyright (©) 1984, by the College Entrance Examination Board, New York. Reprinted with permission.